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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,013	10/26/2000	Hiroshi Yoshida	P107400-00016	2916

7590

02/04/2003

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC  
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EXAMINER
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KOSLOW, CAROL M

ART UNIT	PAPER NUMBER
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1755

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DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Applicati n N .

09/696,013

Applicant(s)

YOSHIDA ET AL.

Examiner

C. Melissa Koslow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 1-5, 11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 December 2002 has been entered.

The substitute specification filed 29 July 2002 and 20 December 2002 is acceptable and has been entered. Accordingly the objections to the disclosure are withdrawn.

The 35 USC 112, first paragraph rejections and the 35 USC 112, second paragraph rejections are withdrawn due to the amendment to the claims, dated 20 December 2002.

Newly submitted claims 1-5, 11 and 12, directed to a single crystalline film of the originally claimed compound, are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Original claims 1-5 to the compound and new claims 1-5, 11 and 12 to a single crystalline film of the compound are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as pigment powders and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the

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examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 1-5, 11 and 12 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Since 35 U.S.C. 132(b) and 37 CFR 1.114 provide continued examination of an application (and not examination of a continuing application), the applicant cannot file an RCE to obtain continued examination on the basis of claims that are independent and distinct from the claims previously claimed and examined as a matter of right (i.e., applicant cannot switch inventions) (see 37 CFR 1.145). SEE MPEP 706.07(h) VII.

Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

There is no teaching in the specification to enable one of ordinary skill in the art determine the necessary amounts and composition of the dopant from groups (1)-(3) in order to produce compound having a predetermined ferromagnetic transition temperature. There is no taught relationship between the amounts and composition of the dopant to the ferromagnetic transition temperature. While the specification generically teaches the dopants in an amount in the range of 1-99 at% will adjust the ferromagnetic transition temperature, there is no indication how one can determine the necessary amounts and composition of the dopant from groups (1)-

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(3) from those claimed when given a specific ferromagnetic transition temperature without undue experimentation.

Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "at least two metallic elements (2)" in these claims is indefinite as to its meaning. It is suggested to reinsert "as listed in said" before "(2)" in claims 8 and 9 to overcome this rejection.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Hager, Dausch or Miyazaki et al.

These references teach producing doped ZnO by adding a dopant to ZnO, or in other words controlling the amount of the dopant added to ZnO so it falls within the taught range. Hager teaches doping ZnO with Rh or Ru, Dausch teach doping ZnO with Fe, Co or Ni and Miyazaki et al teach doping ZnO with at least one of Cr, B and Ga. B and Ga are known n-type dopants. Thus these references teach adding elements which fall within claimed groups (1) and (3) to ZnO. Applicants teach on page 9, lines 5-14 and page 6, lines 9-15 that the addition of the taught dopants will inherently adjust the ferromagnetic characteristics of ZnO. Thus the taught method of adding the dopant in the taught amounts will inherently adjust the ferromagnetic characteristics. The references teach the claimed method.

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Claims 6 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Pfrommer et al.

This reference teaches producing doped ZnO by crystal mixing Fe and Mn. Thus this reference teaches crystal mixing elements which fall within claimed group (2) to ZnO. Applicants teach on page 9, lines 5-14 that the addition of the taught dopants will inherently adjust the ferromagnetic characteristics of ZnO, such decreasing the entire energy by kinetic energy, controlling the magnetic interaction between the metallic atoms and controlling the light transmitting characteristics. Thus the taught method of adding the dopant in the taught amounts will inherently adjust the claimed ferromagnetic characteristics. The references teach the claimed method.

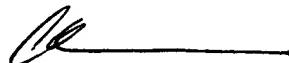
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (703) 308-3817. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at (703) 308-3823.

The fax number for Amendments filed under 37 CFR 1.116 or After Final communications is (703) 872-9311. The fax number for all other official communications is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661 or (703) 308-0662.

cmk  
February 3, 2003

  
C. Melissa Koslow  
Primary Examiner  
Tech. Center 1700